WHAT IS CLAIMED IS:

1. An external rotor motor (12), comprising

an internal stator (52);

a stationary support part (18) supporting the stator; and

an external rotor (49), cooperating with the internal stator (52), and mounted on bearings for rotation with respect to the stator, said rotor having a casing part (14) on whose inner side (28) is arranged a permanent-magnet arrangement (50) that coacts with the internal stator (52).

2. The motor of claim 1, wherein the motor is electronically commutated.

3. The motor according to claim 1,

wherein the support part (18) is configured as a substantially cylindrical part, and further comprising

at least one closure member (76, 78) having an outer periphery which abuts, with at least one sealing element (90), against a peripheral inner surface of the casing part (14).

4. The motor according to claim 3,

wherein the closure member (76, 78) has, on its inner periphery, a protrusion (82) that engages into a corresponding recess (84) of the support part (18).

5. The motor according to claim 3,

wherein the closure member (76, 78) has, in its radially inner region, a resilient portion (80) in order to facilitate mounting thereof onto the support part (18).

6. The motor according to claims 3, wherein

the support part (18) has at least one portion (86, 88) of frusto-conical shape, in order to facilitate sliding of the at least one closure member (76, 78) onto the support part (18).

7. The motor according to claim 3,

wherein an inner side of the casing part (14) has, adjacent said at least one closure member (76, 78), a segment (92) of hollow frusto-conical shape, in order to facilitate insertion of the closure member (76, 78) into the casing part (14).

8. The motor according to claim 1,

wherein a respective rolling bearing (24, 40) is arranged adjacent each of two axial ends of the casing part (14), radially between the casing part and the support part (18).

9. The motor according to claim 8, further comprising

at least one compression spring (30), mounted within said casing part (14), said spring acting upon one of the races (26) of a rolling bearing (24) and thereby effecting an axial clamping between the inner race (22) and outer race (26) of that rolling bearing (24).

10. The motor according to claim 8, wherein

a prong ring (32), whose prongs engage into the inner side (28) of the casing part (14), is provided as an abutment for the compression spring (30).

11. The motor according to claim 8,

wherein the inner races (22, 38) of the two rolling bearings (24, 40) are mounted on the support part (18).

12. The motor according to claim 8,

wherein the rolling bearings are of different sizes.

13. The motor according to claim 1, further comprising, for control purposes,

a control magnet (60), secured to the casing part (14), and at least one galvanomagnetic rotor position sensor (62) associated therewith, in order to sense the rotational position of the casing part (14) relative to the support part (18).

14. The motor according to claim 13,

wherein a nonmagnetic spacer (58) is provided between the control magnet (60) and the magnet arrangement (50) associated with the electronically commutated motor (12).

15. The motor according to claim 14, wherein

the at least one rotor position sensor (62), associated with the control magnet (60), is arranged on a circuit board (68) that is secured nonrotatably to the support part (18).

16. The motor according to claim 15, wherein electronic controls of a motor implemented as a collectorless motor are arranged substantially entirely on the circuit board (66).

17. The motor according to claim 15, wherein

the circuit board (66) extends substantially perpendicular to a rotation axis (67) of the casing part (14).

18. The motor according to claim 1, wherein,

in order to constitute a magnetic return path for a permanent magnet (50, 60) of the rotor, the casing part (14) is made at least locally of a ferromagnetic material.

19. The motor according to claim 1, wherein,

upon assembly, the support part (18) is insertable, with an insertion end (94), from a first end of the casing part (14), into said casing part;

wherein furthermore a first rolling bearing (24) is mounted with its inner ring (22) on the end region (96) of the support part (18) facing away from that insertion end (94),

and the outside diameter of the outer ring (26) of that first rolling bearing (24) is dimensioned such that it is displaceable substantially without radial clearance in the inner side (28) of the casing part (14).

20. The motor according to claim ~~20~~ 19,

wherein a second rolling bearing (40) is mounted (48) with its outer ring (44) in the region of the second end of the

12/4/2003

casing part (14) located opposite the first end.

21. The motor according to claim 20,

wherein the outer ring (42) of the second rolling bearing (44) is retained between a stop (46), provided on the inner side of the casing part (14), and a retaining member (48) provided there.

22. The motor according to 19, wherein

a sensor arrangement (62, 66), for sensing the rotational position of the external rotor (49) relative to the internal stator (52), is arranged between the first rolling bearing (24) and the internal stator (52) mounted on the support part (18).

23. The motor according to claim 22, wherein

the sensor arrangement (62, 66) has associated with it a control magnet (60) mounted on the inner side (28) of the casing part (14), the number of whose poles is greater than the number of magnetic poles (50), coacting with the internal stator (52) and secured to the casing part (14), of the external rotor (49).

24. The motor according to claim 23, wherein

a nonmagnetic spacer ring (58) is arranged between the magnet poles (50) of the external rotor (49) and the control magnet (60).

25. The motor according to claim 1, wherein

an axial recess (68), and a radial recess (70) intersecting said axial recess, are provided in the support part (18).

12/4/2003

26. The motor according to claim 25,

wherein a respective electrical connector member is arranged in the axial recess (68) and in the radial recess (70), which connector members are connected to one another by means of a plug connection adjacent an intersection of those recesses (68, 70).